

Hard red spring wheat and barley tolerance to postemergence herbicides at Crookston, MN - 2008. Durgan, Beverly R., Jochum J. Wiersma, James H. Cameron and Douglas W. Miller. This experiment was designed to evaluate the tolerance of selected Hard Red Spring Wheat (HRSW) and barley varieties to several postemergence herbicides. The experiment was conducted at Crookston, MN on a Donaldson/Wheaton loam. Following soybeans, the experimental area was chisel plowed in the fall of 2007. In the spring of 2008, 110 lbs/A N was applied and the experimental area was tilled with a field cultivator to prepare the seedbed. The HRSW varieties 'Ada', 'Faller', 'Glenn', 'Hat Trick', 'Howard', 'Kelby', 'Knudson', 'Kuntz', 'Oklee', 'RB-07', 'Tom', and 'Traverse' and the spring barley varieties 'Rasmusson' and 'Stellar' were seeded on April 17 at 105 lbs/A and 98 lbs/A for wheat and barley, respectively. All treatments were applied with a CO₂ pressured backpack type sprayer delivering 10 gpa at 30 psi using 80015 flat-fan nozzles. Herbicides were applied on May 31. The experimental design was a strip plot with three replications. Varieties were seeded in strips randomized within each replication. Herbicide treatments were applied across all varieties. Each herbicide x variety plot was 8 by 8 ft. Environmental conditions are listed below. Crop injury was rated visually. Plant heights and grain yield were measured. Data is summarized by variety and presented in the tables 1 through 7.

Treatment Date	May 31
Temperature (°F)	
Air	70
Relative Humidity (%)	53
Wind (mph)	E 1.7
Sky	clear
Target Small Grain Stage	3-5 leaf
Rainfall before Application	
Week 1 (inch)	0.47
Rainfall after Application	
Week 1 (inch)	1.60
Week 2 (inch)	1.03

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Table 1.

Treatment	Rate Product/A	Ada				Faller			
		Injury		Height (inch)	Yield (Bu/A)	Injury		Height (inch)	Yield (Bu/A)
		6/20 (%)	7/17 (%)			6/20 (%)	7/17 (%)		
Everest + Preference	0.62 oz + 3.2 oz	8	0	85	102	8	0	87	99
Everest + Preference	1.23 oz + 3.2 oz	8	10	85	89	8	10	85	98
SP102000020025 + N-Pak AMS	27.4 oz + 1.18 pt	0	0	86	105	0	0	84	104
SP102000020025 + N-Pak AMS	54.8 oz + 1.18 pt	0	0	86	107	0	0	87	104
Huskie + N-Pak AMS + Preference	13.5 oz + 1.18 pt + 3.2 oz	0	0	83	101	0	0	87	111
Huskie + N-Pak AMS + Preference	27 + 1.18 pt + 3.2 oz	0	0	85	92	0	0	84	97
Orion	17 oz	0	0	86	102	0	0	86	111
Orion	34 oz	0	0	86	102	0	0	85	103
A15351 + Adigor Adjuvant	8.35 oz + 0.6 pt	0	0	83	96	0	0	81	92
A15351 + Adigor Adjuvant	17.7 oz + 0.6 pt	0	0	84	91	0	0	84	101
Bronate Advanced	0.8 pt	0	0	83	94	0	0	84	95
Bronate Advanced	1.6 pt	0	0	83	119	0	0	82	91
Untreated Check	--	0	0	82	99	0	0	86	111
LSD (0.05)		2	ns	ns	ns	2	ns	ns	11

Table 2.

Treatment	Rate Product/A	Glenn				Hat Trick			
		Injury		Height (inch)	Yield (Bu/A)	Injury		Height (inch)	Yield (Bu/A)
		6/20 (%)	7/17 (%)			6/20 (%)	7/17 (%)		
Everest + Preference	0.62 oz + 3.2 oz	10	0	100	92	8	0	84	92
Everest + Preference	1.23 oz + 3.2 oz	10	10	98	82	8	10	84	94
SP102000020025 + N-Pak AMS	27.4 oz + 1.18 pt	0	0	99	91	0	0	84	101
SP102000020025 + N-Pak AMS	54.8 oz + 1.18 pt	0	0	100	86	0	0	85	99
Huskie + N-Pak AMS + Preference	13.5 oz + 1.18 pt + 3.2 oz	0	0	98	92	0	0	86	92
Huskie + N-Pak AMS + Preference	27 + 1.18 pt + 3.2 oz	0	0	99	80	0	0	83	88
Orion	17 oz	0	0	100	89	0	0	85	98
Orion	34 oz	0	0	94	98	0	0	82	94
A15351 + Adigor Adjuvant	8.35 oz + 0.6 pt	0	0	102	79	0	0	83	93
A15351 + Adigor Adjuvant	17.7 oz + 0.6 pt	0	0	99	84	0	0	84	84
Bronate Advanced	0.8 pt	0	0	95	78	0	0	85	96
Bronate Advanced	1.6 pt	0	0	97	77	0	0	79	86
Untreated Check	--	0	0	96	92	0	0	87	97
LSD (0.05)		ns	ns	ns	ns	2	ns	ns	ns

Everest 70 WG = flucarbazone.

Preference = nonionic surfactant.

SP102000020025 = experimental from Bayer Crop Science.

N-Pak AMS = ammonium sulfate solution.

Huskie 2.08 EC = pyrasulfotole & bromoxynil & safener.

Orion 2.37 SE = florasulam (0.033 lb ai/gal) & MCPA (2.34 lb ae/gal).

A15351 EC= pinoxaden (7.38%) & florasulam (92.62%) & cloquintocet-methyl (safener).

Adigor Adjuvant = emulsifiable oil adjuvant.

Bronate Advanced 5E = bromoxynil (2.5 lb ai/gal) & MCPA (2.5 lb ae/gal).

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Table 3.

Treatment	Rate Product/A	Howard				Kelby			
		Injury		Height (inch)	Yield (Bu/A)	Injury		Height (inch)	Yield (Bu/A)
		6/20 (%)	7/17 (%)			6/20 (%)	7/17 (%)		
Everest + Preference	0.62 oz + 3.2 oz	8	0	94	99	8	0	82	100
Everest + Preference	1.23 oz + 3.2 oz	8	10	91	94	8	10	85	93
SP102000020025 + N-Pak AMS	27.4 oz + 1.18 pt	0	0	97	102	0	0	85	109
SP102000020025 + N-Pak AMS	54.8 oz + 1.18 pt	0	0	91	102	0	0	84	109
Huskie + N-Pak AMS + Preference	13.5 oz + 1.18 pt + 3.2 oz	0	0	95	98	0	0	84	101
Huskie + N-Pak AMS + Preference	27 + 1.18 pt + 3.2 oz	0	0	95	97	0	0	83	96
Orion	17 oz	0	0	87	100	0	0	82	103
Orion	34 oz	0	0	92	99	0	0	84	104
A15351 + Adigor Adjuvant	8.35 oz + 0.6 pt	0	0	91	95	0	0	80	98
A15351 + Adigor Adjuvant	17.7 oz + 0.6 pt	0	0	95	91	0	0	80	94
Bronate Advanced	0.8 pt	0	0	90	95	0	0	84	102
Bronate Advanced	1.6 pt	0	0	96	99	0	0	80	90
Untreated Check	--	0	0	92	98	0	0	82	109
LSD (0.05)		2	ns	ns	ns	2	ns	ns	ns

Table 4.

Treatment	Rate Product/A	Knudson				Kuntz			
		Injury		Height (inch)	Yield (Bu/A)	Injury		Height (inch)	Yield (Bu/A)
		6/20 (%)	7/17 (%)			6/20 (%)	7/17 (%)		
Everest + Preference	0.62 oz + 3.2 oz	8	0	83	101	5	0	81	103
Everest + Preference	1.23 oz + 3.2 oz	8	10	82	99	5	10	82	94
SP102000020025 + N-Pak AMS	27.4 oz + 1.18 pt	0	0	81	100	0	0	79	95
SP102000020025 + N-Pak AMS	54.8 oz + 1.18 pt	0	0	85	105	0	0	79	100
Huskie + N-Pak AMS + Preference	13.5 oz + 1.18 pt + 3.2 oz	0	0	86	93	0	0	81	110
Huskie + N-Pak AMS + Preference	27 + 1.18 pt + 3.2 oz	0	0	82	94	0	0	79	100
Orion	17 oz	0	0	80	106	0	0	81	104
Orion	34 oz	0	0	85	98	0	0	78	101
A15351 + Adigor Adjuvant	8.35 oz + 0.6 pt	0	0	84	98	0	0	79	95
A15351 + Adigor Adjuvant	17.7 oz + 0.6 pt	0	0	81	91	0	0	80	98
Bronate Advanced	0.8 pt	0	0	84	97	0	0	80	89
Bronate Advanced	1.6 pt	0	0	82	95	0	0	79	84
Untreated Check	--	0	0	82	101	0	0	80	107
LSD (0.05)		2	ns	ns	ns	3	ns	ns	ns

Everest 70 WG = flucarbazone.

Preference = nonionic surfactant.

SP102000020025 = experimental from Bayer Crop Science.

N-Pak AMS = ammonium sulfate solution.

Huskie 2.08 EC = pyrasulfotole & bromoxynil & safener.

Orion 2.37 SE = florasulam (0.033 lb ai/gal) & MCPA (2.34 lb ae/gal).

A15351 EC= pinoxaden (7.38%) & florasulam (92.62%) & cloquintocet-methyl (safener).

Adigor Adjuvant = emulsifiable oil adjuvant.

Bronate Advanced 5E = bromoxynil (2.5 lb ai/gal) & MCPA (2.5 lb ae/gal).

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Table 5.

Treatment	Rate Product/A	Oklee				RB07			
		Injury		Height (inch)	Yield (Bu/A)	Injury		Height (inch)	Yield (Bu/A)
		6/20 (%)	7/17 (%)			6/20 (%)	7/17 (%)		
Everest + Preference	0.62 oz + 3.2 oz	8	0	89	88	8	0	84	107
Everest + Preference	1.23 oz + 3.2 oz	8	10	91	82	8	10	83	96
SP102000020025 + N-Pak AMS	27.4 oz + 1.18 pt	0	0	88	98	0	0	84	112
SP102000020025 + N-Pak AMS	54.8 oz + 1.18 pt	0	0	89	97	0	0	85	114
Huskie + N-Pak AMS + Preference	13.5 oz + 1.18 pt + 3.2 oz	0	0	90	92	0	0	85	98
Huskie + N-Pak AMS + Preference	27 + 1.18 pt + 3.2 oz	0	0	90	94	0	0	85	103
Orion	17 oz	0	0	88	90	0	0	84	107
Orion	34 oz	0	0	89	88	0	0	81	103
A15351 + Adigor Adjuvant	8.35 oz + 0.6 pt	0	0	89	87	0	0	84	104
A15351 + Adigor Adjuvant	17.7 oz + 0.6 pt	0	0	89	87	0	0	86	98
Bronate Advanced	0.8 pt	0	0	89	82	0	0	82	107
Bronate Advanced	1.6 pt	0	0	87	77	0	0	86	98
Untreated Check	--	0	0	90	93	0	0	83	105
LSD (0.05)		2	ns	ns	12	2	ns	ns	ns

Table 6.

Treatment	Rate Product/A	Tom				Traverse			
		Injury		Height (inch)	Yield (Bu/A)	Injury		Height (inch)	Yield (Bu/A)
		6/20 (%)	7/17 (%)			6/20 (%)	7/17 (%)		
Everest + Preference	0.62 oz + 3.2 oz	8	0	85	101	8	0	89	97
Everest + Preference	1.23 oz + 3.2 oz	8	10	90	95	8	10	91	99
SP102000020025 + N-Pak AMS	27.4 oz + 1.18 pt	0	0	87	104	0	0	83	105
SP102000020025 + N-Pak AMS	54.8 oz + 1.18 pt	0	0	88	105	0	0	90	100
Huskie + N-Pak AMS + Preference	13.5 oz + 1.18 pt + 3.2 oz	0	0	90	107	0	0	86	104
Huskie + N-Pak AMS + Preference	27 + 1.18 pt + 3.2 oz	0	0	85	97	0	0	94	93
Orion	17 oz	0	0	87	103	0	0	93	101
Orion	34 oz	0	0	87	103	0	0	94	94
A15351 + Adigor Adjuvant	8.35 oz + 0.6 pt	0	0	88	99	0	0	96	92
A15351 + Adigor Adjuvant	17.7 oz + 0.6 pt	0	0	89	100	0	0	90	94
Bronate Advanced	0.8 pt	0	0	86	99	0	0	93	93
Bronate Advanced	1.6 pt	0	0	87	98	0	0	95	93
Untreated Check	--	0	0	88	106	0	0	94	94
LSD (0.05)		2	ns	ns	ns	2	ns	ns	ns

Everest 70 WG = flucarbazone.

Preference = nonionic surfactant.

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Adigor Adjuvant = emulsifiable oil adjuvant.

Bronate Advanced 5E = bromoxynil (2.5 lb ai/gal) & MCPA (2.5 lb ae/gal).

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Table 7.

Treatment	Rate Product/A	Rasmusson				Stellar			
		Injury		Height (inch)	Yield (Bu/A)	Injury		Height (inch)	Yield (Bu/A)
		6/20 (%)	7/17 (%)			6/20 (%)	7/17 (%)		
Everest + Preference	0.62 oz + 3.2 oz	55	50	90	88	63	42	87	77
Everest + Preference	1.23 oz + 3.2 oz	75	68	87	52	85	67	84	42
SP102000020025 + N-Pak AMS	27.4 oz + 1.18 pt	2	0	85	111	3	0	86	100
SP102000020025 + N-Pak AMS	54.8 oz + 1.18 pt	2	0	88	112	3	0	88	105
Huskie + N-Pak AMS + Preference	13.5 oz + 1.18 pt + 3.2 oz	0	0	89	107	0	0	88	106
Huskie + N-Pak AMS + Preference	27 + 1.18 pt + 3.2 oz	0	0	85	113	0	0	89	107
Orion	17 oz	0	0	90	109	0	0	87	102
Orion	34 oz	0	0	84	115	0	0	87	107
A15351 + Adigor Adjuvant	8.35 oz + 0.6 pt	0	0	88	106	0	0	86	105
A15351 + Adigor Adjuvant	17.7 oz + 0.6 pt	0	0	90	106	0	0	88	103
Bronate Advanced	0.8 pt	0	0	85	110	0	0	84	102
Bronate Advanced	1.6 pt	0	0	85	110	0	0	88	103
Untreated Check	--	0	0	87	112	0	0	91	108
LSD (0.05)		5	8	ns	12	5	3	ns	13

Everest 70 WG = flucarbazone.

Preference = nonionic surfactant.

SP102000020025 = experimental from Bayer Crop Science.

N-Pak AMS = ammonium sulfate solution.

Huskie 2.08 EC = pyrasulfotole & bromoxynil & safener.

Orion 2.37 SE = florasulam (0.033 lb ai/gal) & MCPA (2.34 lb ae/gal).

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